UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,743	03/08/2001	John McCormack	EDGE001/01US	5719

7590 11/02/2004

GLENN PATENT GROUP
3475 Edison Way
Suite L
Menlo Park, CA 94025

EXAMINER	
MATTIS, JASON E	
ART UNIT	**PAPER NUMBER**
2665	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/800,743	MCCORMACK ET AL.	
	Examiner	Art Unit	
	Jason E Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-25 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-25 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 10 line 3 of the Detailed Description section describes "Switched Virtual Paths ("SVPs") 32, 24"; however, the switched virtual paths in Figure 1 are labeled 32 and 34. It is recommended that "24" be changed to "34".

Also, in Preliminary Amendment B filed on 3/8/01, amended the specification by adding a reference to "Provisional Application No. 60/277,479"; however, this appears to be a typo. In the Applicants' Declaration, priority was claimed to Provisional Application Number 60/266479. It is recommended that the specification be amended to refer to the correct priority Provisional Application.

Appropriate correction is required.

Claim Objections

2. The claims are objected to because of the following informalities: The claims contain abbreviations (i.e. AAL2, ATM, UDP, etc.) that are not specifically defined in the claims themselves. It is recommended that at least the first appearance of these terms be written out before the abbreviations are used.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 8, 13-14, and 21-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu (U.S. Pat. 6665301).

With respect to claim 1, Wu discloses a method for Internet telephony **(See column 5 lines 61-65, column 3 lines 25-40, and Figure 1 of Wu for reference to a telecommunications system 10 transferring data for real time applications such as voice-over IP transmissions)**. Wu also discloses connecting a first telephone to a first switch using a first virtual circuit **(See column 4 lines 10-39 and Figure 1 of Wu for reference to a virtual channel 40, a first virtual circuit, being formed in the transmission line 28 between Node A and Node B, a first switch, in the VoIP network 10, meaning a VoIP phone is connected through Node A to Node B)**. Wu further discloses connecting a second telephone to a second switch using a second virtual circuit **(See column 4 lines 10-39 and Figure 1 of Wu for reference to a virtual channel 44, a second virtual circuit, forming a connection between Node D**

and Node C, a second switch, in the VoIP network 10, meaning a VoIP phone is connected through Node D to Node C). Wu also discloses connecting the first switch to the second switch using a third virtual circuit **(See column 4 lines 10-39 and Figure 1 of Wu for reference to virtual channel 48, a third virtual circuit, connecting nodes B and C through a public ATM network)**.

With respect to claim 2, Wu discloses receiving a data packet at the first switch from the first telephone through the first virtual circuit **(See column 3 line 57 to column 4 line 39 and Figure 1 of Wu for reference to an ATM cell, which is a data packet, being routed to Node 32, or Node B, through virtual circuits including virtual channel 40)**. Wu also discloses routing the data packet based on a destination for the data packet from the first switch to the second switch via the third switched virtual circuit **(See column 3 line 57 to column 4 line 39 and Figure 1 of Wu for reference to the ATM cell being routed between Nodes 32 and 36, or Nodes B and C, through virtual circuits including virtual channel 48)**. Wu further discloses sending the data packet from the second switch through the second virtual circuit to the second telephone **(See column 3 line 57 to column 4 line 39 and Figure 1 of Wu for reference to the ATM cell being routed from Node 36, or Node C, to the far end private network with a VoIP phone)**.

With respect to claim 3, Wu discloses that the data packet comprises voice data **(See column 3 lines 27-31 of Wu for reference to transmitting voice through the telecommunications system 10)**.

With respect to claim 8, Wu discloses a method for connecting a plurality of edge networks that straddle at least one core network **(See column 3 lines 27-40 and Figure 1 of Wu for reference to a public network 12, which is a core network, straddled by multiple private networks 14, which are edge networks)**. Wu also discloses setting up at least one trunk according to a first protocol across the core network **(See column 3 line 57 to column 4 line 39 and Figure 1 of Wu for reference to setting up a virtual channel 48, which is a trunk, across the public network 12 according to ATM protocol)**. Wu further discloses receiving data from at least a first edge network via a first multiprotocol convergence switch associated with the first edge network **(See column 3 line 57 to column 4 line 39 and Figure 1 of Wu for reference to routing ATM cells, which contain data, between Node 30, a first multiprotocol convergence switch, of the private network 14 and Node 32 of the public network 12, or Nodes A and B, using virtual channel 40)**. Wu also discloses transmitting the data from the first multiprotocol convergence switch to at least a second multiprotocol convergence switch associated with the second edge network via the trunk **(See column 3 line 57 to column 4 line 39 and Figure 1 of Wu for reference to routing ATM cells between Node 30 of a first private network and Node 38, a second multiprotocol convergence switch, of a second private network, using virtual channel 48)**.

With respect to claim 13, Wu discloses a method for transmitting a packet through an electronic network **(See column 3 line 57 to column 4 line 9 and Figure 1 of Wu for reference to transmitting ATM cells, which are packets, through**

telecommunications system 10, which is an electronic network). Wu also discloses setting up on a core network a plurality of switched virtual paths **(See column 3 line 57 to column 4 line 9 and Figure 1 of Wu for reference to setting up virtual paths through telecommunications system 10, including public network 12, which is a core network)**. Wu further discloses associated edge ATM switches **(See column 3 line 57 to column 4 line 9 and Figure 1 of Wu for reference to Nodes 32 and 36, or Nodes B and C, which are edge ATM switches of the public network 12 and for reference to Nodes 30 and 38, or Nodes A and D, which are edge ATM switches of separate private networks 14)**. Wu also discloses each virtual path comprising at least one switched virtual circuit and each virtual circuit comprising at least one channel **(See column 3 line 57 to column 4 line 9 and Figure 1 of Wu for reference to virtual paths having virtual channels, which are virtual circuits, and for reference to virtual channels being the physical connections in the network meaning they comprise at least one channel)**. Wu further discloses assigning a respective virtual path identification number to each switched virtual path and a respective virtual circuit identification number to each switch virtual circuit and identifying a packet with a switched virtual path identification number and with a switched virtual circuit identification number **(See column 3 line 57 to column 4 line 9 and Figure 1 of Wu for reference to ATM cells using switching labels, which are identification numbers, that define a virtual path and a virtual channel, with the ATM cells being identified by the switching labels)**. Wu also discloses transmitting the packet to the associated edge ATM switch using the switched virtual path having the same virtual

path identification number as the packet and the switched virtual circuit having the same virtual identification number as the packet **(See column 3 line 57 to column 4 line 39 and Figure 1 of Wu for reference to transmitting an ATM cell from Node A to Node B using virtual channel 40 as identified by the switching label of the ATM cell)**.

With respect to claim 14, Wu discloses setting up on the edge network at least one internal switched virtual path **(See Figure 1 of Wu for reference to the leftmost private network 14 having internal virtual channel connections 56, which are part of a virtual path connection, as an input to edge Node A)**. Wu also discloses routing the packet through the edge network using the internal switched virtual path **(See column 4 lines 10-39 and Figure 1 of Wu for reference to transmitting ATM cells through virtual channel connections 56 to edge Node A where the cells may be further transmitted through virtual tunnel 50)**.

With respect to claim 21, Wu discloses a packet switched Internet telephone network **(See column 5 lines 61-65, column 3 lines 25-40, and Figure 1 of Wu for reference to a telecommunications system 10 transferring data for real time applications such as voice-over IP transmissions)**. Wu also discloses a first multiprotocol convergence switch **(See column 3 line 57 to column 4 line 9 and Figure 1 of Wu for reference to Node A, which is a multiprotocol convergence switch)**. Wu further discloses at least a second multiprotocol convergence switch **(See column 3 line 57 to column 4 line 9 and Figure 1 of Wu for reference to Node D, which is a second multiprotocol convergence switch)**. Wu also discloses at least a first ATM virtual circuit connecting the first and second multiprotocol convergence

switches **(See column 4 lines 10-39 and Figure 1 of Wu for reference to ATM virtual circuits 40, 44, and 48 connecting Node A to Node D)**.

With respect to claim 22, Wu discloses a respective call agent associated with each multiprotocol convergence switch for controlling the respective multiprotocol convergence switch **(See column 5 lines 39-46 and Figure 2 of Wu for reference to each node having a management complex 88 that controls the node)**.

5. Claims 15-16 and 19-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Roy (U.S. Pat. 6049531).

With respect to claim 15, Roy discloses a multiprotocol convergence switch **(See column 10 line 52 to column 11 line 11 and Figure 1A of Roy for reference to ATM ADSL modem 103-3, which is a multiprotocol convergence switch)**. Roy also discloses at least one protocol stack **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to the protocol stacks of the ATM ADSL modem 103-3)**. Roy further discloses at least one data transfer layer **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to signaling entity 510 acting as a data transfer layer between protocols)**. Roy also discloses at least one multiprotocol convergence switch controller **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to signaling entity 510 using AMsig 512 and H.255.0/Amsig 511 to collectively act as a controller to control ATM ADSL modem 103-3)**.

With respect to claim 16, Roy discloses that the protocol stack comprises a UDP/IP stack **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to protocol entity 513 including a UDP/IP stack)**. Roy also discloses an ATM stack **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to protocol entity 514 including an AAL and ATM stack)**.

With respect to claim 19, Roy discloses that the data transfer layer includes at least one data transfer element **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to signaling entity 510, which is a data transfer element, acting as a data transfer layer between protocols)**.

With respect to claim 20, Roy discloses a call agent communication element **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to signaling entity 510 acting as a call agent communication element by sending control signals to both the AMsig controller and the H.225.0 controller)**. Roy also discloses a UDP signaling element **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to H.225.0/AMsig controller 511, which controls signaling to the UDP stack 513)**. Roy further discloses an ATM signaling element **(See column 10 line 52 to column 11 line 11 and Figure 5 of Roy for reference to AMsig controller 512, which controls signaling to the ATM stack 514)**. The ATM ADSL modem 103-3 of Roy must also contain a routing table so that it may properly function to route packets based on their addresses to either the public ATM network or to the customer network **(See column 4 lines 16-32 and Figure 1 of Roy for**

reference to ATM ADSL modem 103-3 being used to send data between the two networks).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 4-5 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Yang (U.S. Application 10/706730).

With respect to claim 4, Wu does not disclose stripping the header from the data packet prior to routing and then routing the stripped data packet to the second switch.

With respect to claim 5, Wu does not disclose adding a header to the stripped data packet subsequent to receiving the data packet at the second switch prior to sending the packet to the second telephone.

With respect to claim 10, Wu does not disclose stripping the head portion from the data prior to routing a data packet and adding a replacement header to the data subsequent to receiving the data.

With respect to claim 11, Wu discloses an Internet telephone switch **(See column 3 line 57 to column 4 line 9 and Figure 1 of Wu for reference to Node B which is a switch in an ATM network used for voice-over IP transmissions)**. Wu also discloses a means for switching data from a first channel on a first switched virtual circuit to a second channel on a second switched virtual circuit **(See column 3 line 57 to column 4 line 39 and Figure 1 of Wu for reference to Node B switching ATM cells received from Node A using virtual channel 40, a first channel, to Node C using virtual channel 48, a second channel)**. Wu does not disclose a means for stripping headers from IP traffic.

With respect to claims 4-5 and 10-11, Yang, in the field of communications, discloses a network that strips off RTP/UDP/IP headers from packets before transferring them over an ATM network **(See page 4 paragraph 90 to page 5 paragraph 103 and Figure 4B of Yang for reference to forming compressing a packet by completely removing IP/UDP/RTP headers before sending a packet over an ATM network and routing the packet to an ATM egress switch)**. Yang also discloses adding IP/UDP/RTP headers back onto a packet after a packet has been received at an egress of an ATM network and before sending the packet to an IP network **(See page 5 paragraphs 107-108 and Figure 4B of Yang for reference to decompressing a packet by adding an IP/UDP/RTP header on the packet after it is received at an edge switch to an IP network)**. Stripping a header before sending it over an ATM network and adding it back on at an egress switch of an ATM network has the advantage of providing a higher compressing gain while saving resources, as

suggested by Yang **(See page 2 paragraph 49 of Yang for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Yang, to stripping a header before sending it over an ATM network and adding it back on at an egress switch, as suggested by Yang, with the Internet telephony method, system, and switches of Wu, with the motivation being to provide a higher compressing gain while saving resources.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Roy.

With respect to claim 6, Wu does not disclose converting telephone call data between an IP network an AAL2 network prior to routing the data packet.

With respect to claim 6, Roy, in the field of communications, discloses converting telephone call data between an IP network and an AAL2 network **(See column 9 line 59 to column 10 line 51 of Roy for reference to converting IP data into ATM cells using ATM adaptation layer protocol before transferring the data)**. Converting data between an IP network and an AAL2 network has the advantage of allowing telephone data to travel from an IP network to an ATM network, which is more like a circuit switched network, to provide a better quality of service for the real time telephone call data.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Roy, to combine converting data between an

IP network and an AAL2 network, as suggested by Roy, with the Internet telephony method of Wu, with the motivation being to allow allowing telephone data to travel from an IP network to an ATM network, which is more like a circuit switched network, to provide a better quality of service for the real time telephone call data.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Frey et al. (U.S. Pat. 5982783).

With respect to claim 7, Wu does not disclose converting the data packet between an AAL5 network and an AAL2 network prior to routing the data packet.

With respect to claim 7, Frey et al., in the field of communications, discloses converting data between an AAL5 network and an AAL2 network **(See column 5 line 1 to column 6 line 4 and column 9 lines 3-41 and Figure 3 of Frey et al. for reference to transferring data packets between both AAL2 and AAL5 networks as dictated by call processing)**. Converting data between an AAL5 network and an AAL2 network has the advantage of allowing packets to be converted to an AAL2 network which provides better quality of services for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice, than an AAL5 network that supports time-insensitive traffic **(See column 5 line 62 to column 6 line 3 for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Frey et al., to combine converting data between both AAL2 and AAL5 networks, as suggested by Frey et al., with the Internet

telephony method of Wu, with the motivation being to allow packets to be converted to an AAL2 network which provides better quality of services for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice, than an AAL5 network that supports time-insensitive traffic.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Roy as applied to claim 6 above, and further in view of Frey et al.

With respect to claim 9, Roy discloses transferring data between edge networks using TCP/UDP/IP and edge networks using ATM adaptation layer protocols **(See column 9 line 59 to column 10 line 51 of Roy for reference to converting IP network data into ATM cells using ATM adaptation layer protocol before transferring the data)**. The combination of Wu and Roy does not specifically disclose that data is transferred between both AAL2 and AAL5 ATM edge networks.

With respect to claim 9, Frey et al., in the field of communications, discloses converting data between an AAL5 network and an AAL2 network **(See column 5 line 1 to column 6 line 4 and column 9 lines 3-41 and Figure 3 of Frey et al. for reference to transferring data packets between both AAL2 and AAL5 networks as dictated by call processing)**. Converting data between an AAL5 network and an AAL2 network has the advantage of allowing packets to be converted to an AAL2 network which provides better quality of services for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice, than an AAL5 network that

supports time-insensitive traffic **(See column 5 line 62 to column 6 line 3 for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Frey et al., to combine converting data between both AAL2 and AAL5 networks, as suggested by Frey et al., with the Internet telephony method of Wu, with the motivation being to allow packets to be converted to an AAL2 network which provides better quality of services for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice, than an AAL5 network that supports time-insensitive traffic.

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Yang as applied to claims 4-5 and 10-11 above, and further in view of Roy and Frey et al.

With respect to claim 12, to combination of Wu and Yang does not disclose converting data among a TCP/UDP/IP network, an AAL2 ATM network and an AAL5 ATM network.

With respect to claim 12, Roy, in the field of communications, discloses converting telephone call data between an IP network and an AAL2 network **(See column 9 line 59 to column 10 line 51 of Roy for reference to converting IP data into ATM cells using ATM adaptation layer protocol before transferring the data)**. Converting data between an IP network and an AAL2 network has the advantage of allowing telephone data to travel from an IP network to an ATM network, which is more

like a circuit switched network, to provide a better quality of service for the real time telephone call data.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Roy, to combine converting data between an IP network and an AAL2 network, as suggested by Roy, with the Internet telephony switch of Wu and Yang, with the motivation being to allow allowing telephone data to travel from an IP network to an ATM network, which is more like a circuit switched network, to provide a better quality of service for the real time telephone call data.

With respect to claim 12, Frey et al., in the field of communications, discloses converting data between an AAL5 network and an AAL2 network **(See column 5 line 1 to column 6 line 4 and column 9 lines 3-41 and Figure 3 of Frey et al. for reference to transferring data packets between both AAL2 and AAL5 networks as dictated by call processing)**. Converting data between an AAL5 network and an AAL2 network has the advantage of allowing packets to be converted to an AAL2 network which provides better quality of services for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice, than an AAL5 network that supports time-insensitive traffic **(See column 5 line 62 to column 6 line 3 for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Frey et al., to combine converting data between both AAL2 and AAL5 networks, as suggested by Frey et al., with the Internet telephony switch of Wu, Yang, and Roy, with the motivation being to allow packets to be

converted to an AAL2 network which provides better quality of services for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice, than an AAL5 network that supports time-insensitive traffic.

12. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roy in view of Frey et al.

With respect to claims 17-18, Roy does not disclose the ATM stack comprising one layer specifically selected from the group of an AAL2 layer and an AAL5 layer passing data received from an AAL5 stack user to the AAL5 data transfer layer and data received from an AAL2 stack user to the AAL2 data transfer layer.

With respect to claims 17-18, Frey et al., in the field of communications, discloses converting data between an AAL5 network and an AAL2 network with a protocol stack having separate layers and receiving data separately from both an AAL5 stack and an AAL2 stack **(See column 5 line 1 to column 6 line 4 and column 9 lines 3-41 and Figure 3 of Frey et al. for reference to transferring data packets between both AAL2 and AAL5 networks as dictated by call processing)**. Converting data between an AAL5 network and an AAL2 network has the advantage of allowing packets to be converted to an AAL2 network which provides better quality of services for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice, than an AAL5 network that supports time-insensitive traffic **(See column 5 line 62 to column 6 line 3 for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Frey et al., to combine converting data between both AAL2 and AAL5 networks, as suggested by Frey et al., with the Internet telephony switch of Wu, Yang, and Roy, with the motivation being to allow packets to be converted to an AAL2 network which provides better quality of services for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice, than an AAL5 network that supports time-insensitive traffic.

13. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mousseau et al. (U.S. Pat. 6687251) in view of Yang.

With respect to claim 23, Mousseau et al. discloses receiving on a first input UDP port a packet comprising a header and data **(See column 7 line 66 to column 8 line 16 of Mousseau et al. for reference to transmitting and receiving packets on VoIP switches that comprise data and contain UDP headers)**. Mousseau et al. also discloses using a first multiprotocol convergence switch to find in a first routing table a first output UDP port associated with the first UDP input port **(See column 8 lines 11-16 of Mousseau et al. for reference to a VoIP switch using a routing table to correlate header data to output UDP ports for the transmission of data packets)**. Mousseau et al. further discloses using the first switch to write data to the first output port and receiving the data at the second switch on a second input port **(See column 5 lines 31-50 and Figure 3 of Mousseau et al. for reference to transferring data from the output of one Media Gateway 22A, or VoIP switch, to the input of another**

Media Gateway 22B, or VoIP switch). Mousseau et al. also discloses using the second switch to find in a routing table a second output port and writing the packet to the second output port **(See column 5 lines 31-50, column 7 line 66 to column 8 line 16, and Figure 3 of Mousseau et al. for reference to MG 22B outputting data to a telephone 13 and for reference to using routing tables to look up destinations of ports from UDP headers)**. Mousseau does not disclose stripping the header from the packet, sending the header in a call setup message to the second switch and saving the header at the second switch. Mousseau also does not disclose using the second switch to retrieve the header data and adding the header to the data to reconstitute the packet.

With respect to claims 23, Yang, in the field of communications, discloses a network that strips off RTP/UDP/IP headers from packets before transferring them and sending the headers to a far end switch and saving the header information at the far end switch **(See page 4 paragraph 90 to page 5 paragraph 103, page 5 paragraph 114 to page 6 paragraph 128, and Figure 4B of Yang for reference to forming compressing a packet by completely removing IP/UDP/RTP headers before sending a packet over an ATM network and routing the packet to an ATM egress switch and for reference to sending the header information in a packet the CD in a STATE_START message so that the compression information, such as IP address and SSRC for both call ends, two pairs of RTP (UDP) port numbers, payload type, sampling rate, sample duration, etc., may be stored at the CD)**. Yang also discloses retrieving header data and adding IP/UDP/RTP headers back onto a packet after a packet has been received at an egress of an ATM network and before sending

the packet to an IP network **(See page 5 paragraphs 107-108, page 5 paragraph 114 to page 6 paragraph 128, and Figure 4B of Yang for reference to decompressing a packet by adding an IP/UDP/RTP header on the packet after it is received at an edge switch to an IP network by using the compression state information stored at the edge switch)**. Stripping a header before sending it over an ATM network and adding it back on at an egress switch of an ATM network has the advantage of providing a higher compressing gain while saving resources, as suggested by Yang **(See page 2 paragraph 49 of Yang for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Yang, to stripping a header before sending it over an ATM network and adding it back on at an egress switch, as suggested by Yang, with the Internet telephony method, system, and switches of Wu, with the motivation being to provide a higher compressing gain while saving resources.

14. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mousseau et al. in view of Yang as applied to claim 23 above, and further in view of Mahler et al. (U.S. Pat. 6542504).

With respect to claim 24, Yang discloses at the second switch, incrementing a packet ID to generate a new header and storing this new header information **(See page 5 paragraph 109 of Yang for reference to increasing the sequence number, which is a packet ID, by 1 for each packet)**. The combination of Mousseau et al. and Yang does not disclose recalculating a checksum associated with the header.

With respect to claim 24, Mahler et al., in the field of communications, discloses recalculating a checksum associated with a header to use with a packet that has a compressed header **(See column 10 lines 52-67 and column 11 lines 23-29 of Mahler et al. for reference to recalculating the checksum part of a compressed packet header at the receiving switch)**. Recalculating a checksum associated with a header has the advantage of allowing a destination switch to determine if there is an error in a data packet that has been received.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Mahler et al., to combine recalculating a checksum associated with a header, as suggested by Mahler et al., with the method of Mousseau et al. and Yang, with the motivation being to allow a destination switch to determine if there is an error in a data packet that has been received.

15. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang in view of Frey et al.

With respect to claim 25, Yang discloses a method for header stripping in a switched packet network **(See page 4 paragraph 93 of Yang for reference to removing IP/UDP/RTP headers)**. Yang also discloses establishing a first connection for transmitting a data flow comprising at least one data packet with the packet including data, a header, and an ID **(See page 2 paragraph 44 and page 5 paragraphs 105-109 of Yang for reference to establishing a connection between a mobile 60 and a core network 84 transmitting a data flow with packets including data, a header,**

and a sequence number, or ID). Yang further discloses terminating the data flow into the packet-switched network at an ingress point **(See page 2 paragraph 44 and Figure 3 of Yang for reference to connecting the packet flow from the core network 84 to any IP host 85 via the Internet)**. Yang also discloses determining a destination and routing through the network to the destination **(See page 5 paragraph 105 for reference to identifying the fields of a packet including destination IP and port number and for reference to routing the packet to the destination)**. Yang further discloses establishing a second connection comprising an ATM trunk from the ingress to an egress point **(See page 4 paragraph 93 of Yang for reference to establishing a path over a controlled packet network, or ATM packet network)**. Yang also discloses establishing a third connection from the egress point to a data packet destination **(See page 2 paragraph 44 and Figure 3 of Yang for reference to connecting the packet flow from the core network 84 to any IP host 85 via the Internet)**. Yang further discloses stripping off RTP/UDP/IP headers from packets before transferring them and sending the headers to a far end switch and saving the header information at the far end switch **(See page 4 paragraph 90 to page 5 paragraph 103, page 5 paragraph 114 to page 6 paragraph 128, and Figure 4B of Yang for reference to forming compressing a packet by completely removing IP/UDP/RTP headers before sending a packet over an ATM network and routing the packet to an ATM egress switch and for reference to sending the header information in a packet the CD in a STATE_START message so that the compression information, such as IP address and SSRC for both call ends, two**

pairs of RTP (UDP) port numbers, payload type, sampling rate, sample duration, etc., may be stored at the CD). Yang also discloses sending the packet to the egress point **(See Figure 4B of Yang for reference to sending the packets to a decompressor at the egress of the core network 84)**. Yang further discloses retrieving header data and adding IP/UDP/RTP headers back onto a packet after a packet has been received at an egress of an ATM network and before sending the packet to an IP network **(See page 5 paragraphs 107-108, page 5 paragraph 114 to page 6 paragraph 128, and Figure 4B of Yang for reference to decompressing a packet by adding an IP/UDP/RTP header on the packet after it is received at an edge switch to an IP network by using the compression state information stored at the edge switch of the core network 84)**. Yang also discloses transmitting the data packet to the destination **(See Figure 4B of Yang for reference to, after decompression, transmitting the packets to the IP network, and their destination)**. Yang does not specifically disclose that the ATM network uses AAL2 protocol.

Frey et al., in the field of communications, discloses using AAL2 protocol to transmit data **(See column 5 lines 62-67 of Frey et al. for reference to using AAL2)**. Using AAL2 protocol has the advantage of allowing good quality of service for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice **(See column 5 lines 62-67 for reference to this advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Frey et al., to combine using AAL2 protocol trunks, as suggested by Frey et al., with the header stripping method of Yang, with the

motivation being to allow good quality of service for connection-oriented, variable bit-rate, timing-sensitive applications, such as video and audio or voice.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jem

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600